

CLAIMS

1. A device for sampling or collecting comprising
 - i) a swab comprising gelatine or collagen; and
 - ii) a support fixed to said swab.
2. A device according to claim 1, wherein the swab is selected from the group consisting of a gelatine-based sponge, collagen-based sponge, microfibrillar gelatine or micorfibrillar collagen.
- 10 3. A device according to claim 2, wherein the swab is a gelatine-based sponge,
4. A device according to claim 2, wherein the swab is a gelatine sponge or a collagen sponge, preferably a gelatine sponge.
- 15 5. A device according to claim 1, wherein the swab is a natural or synthetic absorbent material comprising gelatine particles or collagen particles, preferably gelatine particles.
6. The device according to any of the preceding claims, wherein the gelatine or collagen are of natural or synthetic origin, such as from a mammal such as marine mammals, porcine, bovine
20 or from fish, crayfish or vegetables.
7. The device according to claim 6, wherein the gelatine or collagen is of porcine origin..
8. The device according to claim 2, wherein the gelatine-based or collagen-based sponge has a
25 reconfirmation of no more than 10 seconds, typically no more than 5 sec, as determined by the method of Example 1.
9. The device according to claim 2, wherein the gelatine-based sponge has a water absorption capacity of at least 30 g/g, typically at least 40 g/g, as determined by the method of Example
30 3.
10. The device according to claim 2, wherein the gelatine-based sponge is constituted by at least 50% gelatine, such as at least 60%, such as at least 70%, typically at least 75% gelatine, preferably at least 80%, more preferably at least 85% gelatine, such as at least 90% gelatine,
35 suitably at least 95% gelatine, most preferably selected from at least 96%, 97%, 98%, 99% gelatine, based on the dried weight of the sponge.
11. The device according to claim 2, wherein gelatine-based sponge, collagen-based sponge, microfibrillar gelatine and micorfibrillar collagen have pores with an average pore size of about
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12. The device according to claim 5, wherein the particles have a particle size in the range of about 1 μm to about 1 mm, typically from about 5 μm to about 0.5 mm, more typically about 5 μm to about 0.25 mm, preferably about 10 μm to about 0.25 mm, such as about 10 μm to about 0.1 mm.

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13. The device according to claim 5, wherein the swab has a content of gelatine particles or collagen particles, preferably gelatine particles, of 1-95% wt/wt based upon the combined dry weight of the swab and the particles, such as 2-90%, typically 5-90%.

10 14. The device according to claim 1, wherein the swab is of the size in the range of about 1 cm x 1 cm to about 15 cm x 15 cm .

15. A kit comprising

i) i) a swab comprising gelatine or collagen; and

15 ii) an agent selected from the group consisting of a neutral diluent, an anti-microbial agent and a dispersion agent.

16. The kit according to claim 15, wherein said neutral diluent is selected from the group consisting of saline, saline peptone, buffered saline peptone, Ringer solution and an organic or 20 inorganic buffer.

17. A kit according to claim further comprising a support fixed to the swab.

18. A kit according to claim 15, wherein the swab is selected from the group consisting of a 25 gelatine-based sponge, collagen-based sponge, microfibrillar gelatine or micorfibrillar collagen.

19. A kit according to claim 18, wherein the swab is a gelatine-based sponge,

20. A kit according to claim 18, wherein the swab is a gelatine sponge or a collagen sponge, 30 preferably a gelatine sponge.

21. A kit according to claim 15, wherein the swab is a natural or synthetic absorbent material comprising gelatine particles or collagen particles, preferably gelatine particles.

35 22. The kit according to any one of claims 15 to 21, wherein the gelatine or collagen are of natural or synthetic origin, such as from a mammal such as marine mammals, porcine, bovine or from fish, crayfish or vegetables.

23. The kit according to claim 22, wherein the gelatine or collagen is of porcine origin.

24. The kit according to claim 18, wherein the gelatine-based or collagen-based sponge has a reconfirmation of no more than 10 seconds, typically no more than 5 sec, as determined by the method of Example 1.
- 5 25. The kit according to claim 18, wherein the gelatine-based sponge has a water absorption capacity of at least 30 g/g, typically at least 40 g/g, as determined by the method of Example 3.
- 10 26. The kit according to claim 18, wherein the gelatine-based sponge is constituted by at least 50% gelatine, such as at least 60%, such as at least 70%, typically at least 75% gelatine, preferably at least 80%, more preferably at least 85% gelatine, such as at least 90% gelatine, suitably at least 95% gelatine, most preferably selected from at least 96%, 97%, 98%, 99% gelatine, based on the dried weight of the sponge.
- 15 27. The kit according to claim 18, wherein gelatine-based sponge, collagen-based sponge, microfibrillar gelatine and micorfibrillar collagen have pores with an average pore size of about 10 nm to about 2 mm.
- 20 28. The kit according to claim 21, wherein the particles have a particle size in the range of about 1 µm to about 1 mm, typically from about 5 µm to about 0.5 mm, more typically about 5 µm to about 0.25 mm, preferably about 10 µm to about 0.25 mm, such as about 10 µm to about 0.1 mm.
- 25 29. The kit according to claim 21, wherein the swab has a content of gelatine particles or collagen particles, preferably gelatine particles, of 1-95% wt/wt based upon the combined dry weight of the swab and the particles, such as 2-90%, typically 5-90%.
- 30 30. Use of a device as defined in any one of claims 1-14 for collection of a target from a collection medium comprising making contact between the swab and the target.
31. Use of a kit as defined in any one claims 15-29 for collection of a target from a collection medium comprising making contact between the swab and the target.
- 35 32. The use according to any one of claims 30 to 31, wherein the collection is from a collection medium is selected from the group consisting of a solid or semi-solid surface, a liquid, a gas and combinations thereof.
33. The use according to any one of claims 30 to 31, wherein the target is selected from the group consisting of a virus, a micro-organism, a mammalian cell and an organic molecule.

34. The use according to any one of claims 30 to 31, wherein the organic molecule is selected from the group consisting of a nucleotide, a nucleic acid, protein or a detergent.

35. The use according to any one of claims 30 to 31, wherein the nucleotide is a purine- or a pyrimidine-containing nucleotide, preferably ATP.

36. The use according to any one of claims 30 to 31, wherein the micro-organism is selected from the group consisting of bacteria, archaea, bacterial spores, yeast and fungi.

10 37. The use according to any one of claims 30-36 further comprising the step of transfer of the target from the swab to a first transfer medium.

38. The use according to claim 37, wherein the transfer comprises the digestion of the gelatine or collagen.

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39. The use according to claim 37, wherein the transfer comprises the mechanical transfer of target from the gelatine or collagen to a second transfer medium.

20 40. The use according to claim 37, wherein the transfer comprises the washing of target from the gelatine or collagen.

41. The use according to claim 38, wherein the digestion comprises the use of an agent selected from the group consisting of an enzyme, a mineral acid, a carboxylic acid, a base and combinations thereof.

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42. The use according to claim 41, wherein the enzyme is a protease such as an alcalase or pepsin.

43. The use according to any of the claims 37-42, further comprising the step of extraction of 30 the target by membrane filtration.

44. A method of lowering the amount of a target in a sample area comprising making contact between a swab comprising gelatine or collagen and at least a portion of said sample area, to an extent that the target adheres to the swab.

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45. The method according to claim 44, wherein the collection medium is selected from the group consisting of a solid or semi-solid surface, a liquid, a gas and combinations thereof.

46. The method according to claim 44, wherein the target is selected from the group consisting 40 of a virus, a micro-organism, a mammalian cell and an organic molecule.

47. The method according to claim 46, wherein the molecular target is a nucleotide, a nucleic acid, protein or a detergent.
48. The method according to claim 47, wherein the nucleotide is a purine- or a pyrimidine-containing nucleotide, preferably ATP.
 - 5 49. The method according to claim 46, wherein the micro-organism is selected from the group consisting of bacteria, archaea, bacterial spores, yeast and fungi.
- 10 50. The method according to any one of claims 44 to 49 further comprising the step of transfer of the target from the sponge to a first transfer medium.
 51. The method according to claim 50, wherein the transfer comprises the digestion of the gelatine or collagen.
 - 15 52. The method according to claim 50, wherein the transfer comprises the mechanical transfer of the target from the gelatine or collagen to a second transfer medium.
 53. The method according to claim 50, wherein the transfer comprises washing of a target from the gelatine or collagen.
 - 20 54. The method according to claim 44, wherein the swab is as defined in any one of claims 1 to 14.
 - 25 55. The method according to any one of claims 44 to 54, further comprising the use of an agent selected from the group consisting of a neutral diluent, an anti-microbial agent, a disinfecting agent and a dispersion agent.
 56. The method according to claim 55, wherein the anti-microbial or disinfecting agent is an alcohol.
 - 30 57. A method of qualitatively or quantitatively sampling an area for content of a target comprising the use of a gelatine-based sponge and the steps of
 - i) wet sampling using the swab as define in any one of claims 1-14; and/or
 - 35 ii) dry-sampling using the swab as define in any one of claims 1-14.
 58. The method according to claim 57, wherein the area is selected from the group consisting of a solid or semi-solid surface, a liquid, a gas and combinations thereof.
 - 40 59. The method according to claim 57, wherein the target is selected from the group consisting of a virus, a micro-organism, a mammalian cell and an organic molecule.

60. The method according to claim 59, wherein the molecular target is a nucleotide, a nucleic acid, protein or a detergent.

61. The method according to claim 60, wherein the nucleotide is a purine- or a pyrimidine-containing nucleotide, preferably ATP.

62. The method according to claim 59, wherein the micro-organism is selected from the group consisting of bacteria, archaea, bacterial spores, yeast and fungi.

10 63. The method according to any one of claims 57 to 62 further comprising the step of transfer of the target from the sponge to a first transfer medium.

64. The method according to claim 63, wherein the transfer comprises the digestion of the gelatine or collagen.

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65. The method according to claim 63, wherein the transfer comprises the mechanical transfer of the target from the gelatine or collagen to a second transfer medium.

20 66. The method according to claim 63, wherein the transfer comprises washing of a target from the gelatine or collagen.

67. The method according to claim 57, wherein the swab is as defined in any one of claims 1 to 14.

25 68. A method for culturing micro-organisms or mammalian cells comprising adhering the cells to a gelatine-based sponge and culturing the cells in a growth medium.

69. The method according to claim 68, wherein the growth medium is added to the gelatine-based sponge.

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70. The method according to claim 68, wherein the gelatine-based sponge is incubated in a liquid growth medium.

71. The method according to claim 68 further comprising the step of digesting the gelatine-based sponge.

72. The method according to claim 68, wherein the digestion comprises the use of an agent selected from the group consisting of an enzyme, a mineral acid, a carboxylic acid, a base and combinations thereof.

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73. The method according to claim 72, wherein the enzyme is a protease.

74. The method according to claim 73, wherein the protease is alcalase or pepsin.